Specifications of Sensor for Personal Conductivity Meter

Sensor	Model	Measurement Range*1	Cell Constant	Wetted Material
For low conductivity measurement*2	SC72SN-11(0.75m)	0 to 2μS/cm, 0 to 20μS/cm, 0 to 200μS/cm, 0 to 40MΩ·cm	0.05cm^{-1}	SUS316 (electrode element), fluoro rubber (O-ring), polypropylene resin (insulated area), PVC (cable)
General-purpose type	SC72SN-21(0.75m)	0 to 20μS/cm, 0 to 200μS/cm, 0 to 2mS/cm, 0 to 20mS/cm, 0 to 200mS/cm	5cm^{-1}	Titanium (sensor), fluoro rubber (O-ring), PVC (cable), polyphenylene sulfite resin, polypropylene resin (insulated area, clear cover)
	SC72SN-23 (3m)			
Chemical-resistant type	SC72SN-31(0.75m)			Glass, platinum black (electrode element), PVC (cable)
For high conductivity measurement	SC72SN-41(0.75m)	0 to 2mS/cm, 0 to 20mS/cm, 0 to 200mS/cm, 0 to 2S/cm	50cm^{-1}	Glass, platinum black (electrode element), PVC (cable)

*1: Fixed range. For automatic range, range is automatically variable.
*2: Resistivity can be measured for reference. In that case repeatability is determined by conductivity.

Options (Available Separately)

For pH and conductivity meters in common	Soft carrying case	B9269KJ
	Sensor stand	K9220XN
For pH and pH/ORP meters	pH 9 standard solution (50 ml)	K9220XF
For conductivity meter	Standard solution (0.1 mol /l NaCl, 250 ml)	K9221ZA

Spare Parts

For pH/ORP meter	pH 4 standard solution	K9084KF	250 ml x 1 bottle
	pH 7 standard solution	K9084KG	250 ml x 1 bottle
	pH 9 standard solution	K9084KH	250 ml x 1 bottle
	KCl solution (3.3 mol/l)	K9220XH	3.3 mol/l KCl solution, 50 ml x 2 bottles
	Quinhydrone reagent	K9024EC	3 packs, 1 pack for 250 ml solution
	Calibration sub bottle	K9220WW	2 bottles
	Cap set	K9220ZY	Sensor protective cover and cap
For pH and conductivity meters in common	O-ring and gasket set	K9654AY	Gaskets for battery box (2 pcs) and O-rings for connector (2 pcs)

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The clear path to operational excellence

SEE CLEARLY | KNOW IN ADVANCE | ACT WITH AGILITY

VigilantPlant is Yokogawa's automation concept for safe, reliable, and profitable plant operations. VigilantPlant aims to enable an ongoing state of Operational Excellence where plant personnel are watchful and attentive, well-informed, and ready to take actions that optimize plant and business performance.

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YOKOGAWA

PH71/PH72/SC72

Personal pH, pH/ORP, Conductivity Meters

Bulletin 12B03D01-01E

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YOKOGAWA

Compact and lightweight 220g

IP67 Waterproof

CE, C-tick Compliance

pH, pH/ORP, and Conductivity Meters

Compact Body and Stylish Design

NEW

Personal Series

MODEL SC72 ~Personal Conductivity Meter~

SC72

SC72SN

MODEL PH71 ~Personal pH Meter~

PH71

PH72SN

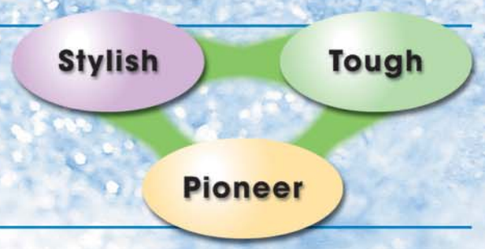
Various Convenient Functions
- Data memory
- Alarm Clock
- Date/time display switchable
- Self-diagnostics
- Auto power off

MODEL PH72 ~Personal pH/ORP Meter~

PH72

PH72SN

Yokogawa, a pioneer in the design and development of portable water quality meters, has renewed its Personal Series.
Bodies are tough and waterproof (IP67).
Stylish design with bright new colors.
Advanced yet easy-to-use membrane keypad for various and convenient functions such as data memory.



Personal Series are ideal for testing waters outside, laboratory studies, and various other applications.

Features

- **Tough and waterproof construction**
  Conforms to IP67
- **Large and easy-to-read LCD display**
  Large characters
- **Compact and lightweight**
  Fits comfortably your hand and stands firm on the table
- **Lineup of various sensors**
- **Regulatory compliance**
  - EMI(Emission) - EN 61326 Class B
    EN 55011 Class B Group 1
    - C-tick AS/NZS CISPR 11
  - EMS(Immunity) - EN 61326 Annex A

Simple to Use

①**Remaining battery life at a glance**
Long battery life:
Approx. 200 hours of continuous use (SC72)
Approx. 600 hours of continuous use (PH71/72)

②**Large and easy-to-read LCD display**
Large characters

③**Power on/off key**
Auto power off function

④**Easy calibration**
Automatic/manual calibration

⑤**HOLD key**
Holds the displayed measured value temporarily

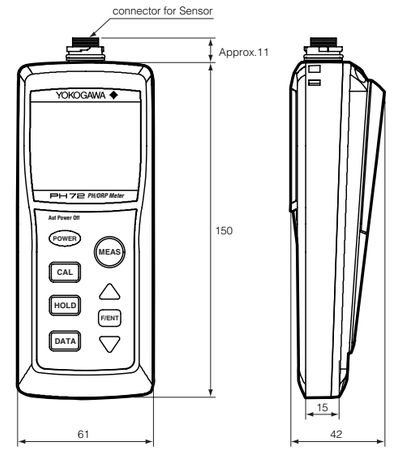
⑥**Entry keys**
For data setting, range setting, temperature compensation setting, standard solution calibration, cell constant setting (SC72), etc.

⑦**DATA key**
Gives access to 300 data points (measured values, temperature, date and time)

Dimension

Personal pH, pH/ORP Meter

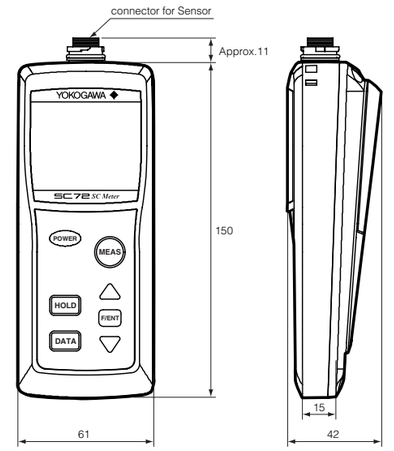
Model PH71, PH72



Unit : mm

Personal Conductivity Meter

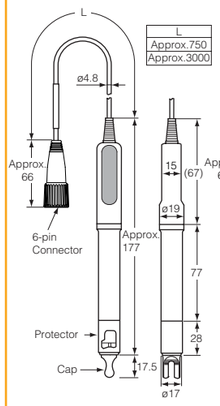
Model SC72



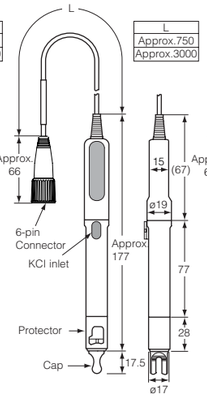
Unit : mm

pH Sensor for Personal pH, pH/ORP Meter

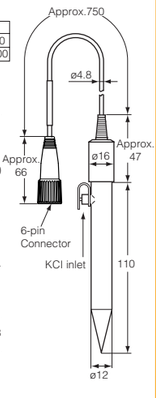
KCl replenish-free type pH sensor



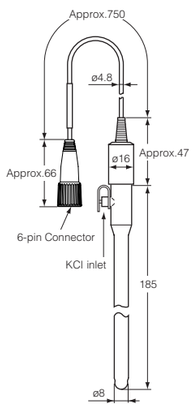
KCl refillable type pH sensor



Needle type pH sensor



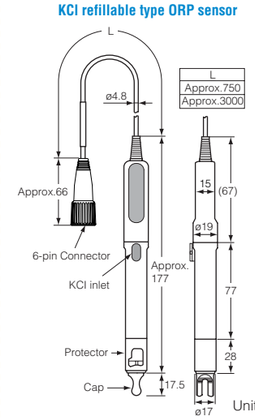
Test tube size pH sensor



Unit : mm

ORP Sensor for Personal pH/ORP Meter

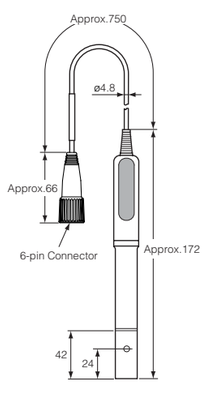
KCl refillable type ORP sensor



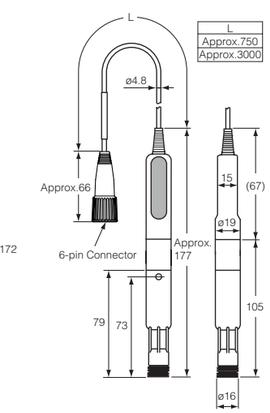
Unit : mm

Conductivity Sensor for Personal Conductivity Meter

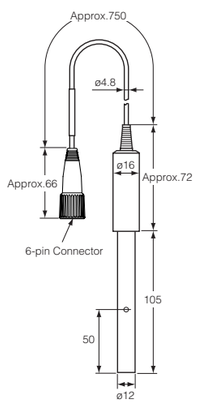
Sensor for low conductivity measurement



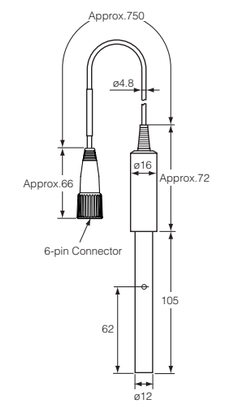
General-purpose type sensor



Chemical-resistant type sensor



Sensor for high conductivity measurement



Unit : mm

Model, Codes and Specifications

Personal pH Meter

Model	Suffix Code	Option Code	Description
PH71	—	—	Personal pH meter
pH sensors	-00	—	Without sensor
	-11	—	With KCl replenish-free type combination pH sensor (cable length: 0.75 m)
	-13	—	With KCl replenish-free type combination pH sensor (cable length: 3 m)
	-21	—	With KCl refillable type combination pH sensor (cable length: 0.75 m)
	-23	—	With KCl refillable type combination pH sensor (cable length: 3 m)
	-32	—	With needle type pH sensor (cable length: 0.75 m)
	-33	—	With test tube size pH sensor (cable length: 0.75 m)
Label language	-J	—	Japanese
	-E	—	English
	-AA	—	Always -AA

Personal pH/ORP Meter

Model	Suffix Code	Option Code	Description
PH72	—	—	Personal pH/ORP meter
Sensors	-00	—	Without sensor
	-11	—	With KCl replenish-free type combination pH sensor (cable length: 0.75 m)
	-13	—	With KCl replenish-free type combination pH sensor (cable length: 3 m)
	-21	—	With KCl refillable type combination pH sensor (cable length: 0.75 m)
	-23	—	With KCl refillable type combination pH sensor (cable length: 3 m)
	-32	—	With needle type pH sensor (cable length: 0.75 m)
	-33	—	With test tube size pH sensor (cable length: 0.75 m)
	-41	—	With KCl refillable type ORP sensor (cable length: 0.75 m)
	-43	—	With KCl refillable type ORP sensor (cable length: 3 m)
	-51	—	With KCl refillable type combination pH sensor (cable length: 0.75 m) + KCl refillable type ORP sensor (cable length: 0.75 m)
Label language	-J	—	Japanese
	-E	—	English
	-AA	—	Always -AA

pH Sensors for Personal pH/ORP Meter

Model	Suffix Code	Option Code	Description
PH72SN	—	—	pH sensor for personal pH/ORP meter
	-11	—	For PH71/72: KCl replenish-free type combination pH sensor (cable length: 0.75 m)
	-13	—	For PH71/72: KCl replenish-free type combination pH sensor (cable length: 3 m)
	-18 *1	—	For PH81/82: KCl replenish-free type combination pH sensor (cable length: 0.75 m)
	-19 *1	—	For PH81/82: KCl replenish-free type combination pH sensor (cable length: 3 m)
	-21	—	For PH71/72: KCl refillable type combination pH sensor (cable length: 0.75 m)
	-23	—	For PH71/72: KCl refillable type combination pH sensor (cable length: 3 m)
	-28 *1	—	For PH81/82: KCl refillable type combination pH sensor (cable length: 0.75 m)
	-32	—	For PH71/72: Needle type pH sensor (cable length: 0.75 m)
	-33	—	For PH71/72: Test tube size pH sensor (cable length: 0.75 m)
	-38 *1	—	For PH82: Needle type pH sensor (cable length: 0.75 m)
	-39 *1	—	For PH82: Test tube size pH sensor (cable length: 0.75 m)
	-AA	—	Always -AA

*1: Combination of pH sensors for PH81/82 meter with PH71/72 meter will not be IP67 waterproof.

ORP Sensors for pH/ORP Meter

Model	Suffix Code	Option Code	Description
OR72SN*1	—	—	ORP sensor for personal pH/ORP meter
	-41	—	For PH72: KCl refillable ORP sensor (cable length: 0.75 m)
	-43	—	For PH72: KCl refillable ORP sensor (cable length: 3 m)
	-48 *2	—	For PH82: KCl refillable ORP sensor (cable length: 0.75 m)
	-49 *2	—	For PH82: KCl refillable ORP sensor (cable length: 3 m)
	-AA	—	Always -AA

*1: Cannot be connected to PH81 and PH71 meters
*2: Combination of ORP sensors for PH81/82 meter with PH72 meter will not be IP67 waterproof.

Specifications of Personal pH/ORP Meters

	PH71	PH72
Measurement	Hydrogen ion concentration (pH) of solution	Hydrogen ion concentration (pH) or oxidation-reduction potential (ORP) of solution
Measurement range	0 to 14 pH, 0 to 80°C (or 0 to 100°C*1)	0 to 14 pH, ±2000 mV, 0 to 80°C (or 0 to 100°C*1)
Resolution	0.01 pH, 0.1°C	0.01 pH, 1 mV (0.1 mV for -199.9 mV to 199.9 mV), 0.1°C
Repeatability (w/o sensor)	±0.01 pH ±1 digit	±0.01 pH ±1 digit, ±1 mV ±1 digit
Display	Digital LCD	Digital LCD
Indication	pH and solution temperature (simultaneously), sensor check, various messages*3	pH or ORP (mV) and solution temperature (simultaneously), sensor check, various messages*3
Temperature compensation	Automatic/manual	Automatic/manual
Calibration	Automatic (1 or 2 point), manual	Automatic (1 or 2 point), manual
Ambient temperature	0 to 50°C	0 to 50°C
Construction	IP67 (JIS C0920)	IP67 (JIS C0920)
Weight	Approx. 220 g (without sensor)	Approx. 220 g (without sensor)
Power source	2 AA size dry cell batteries	2 AA size dry cell batteries
Battery life	Approx. 600 hours*2, Auto Power Off function	Approx. 600 hours*2, Auto Power Off function
Functions	Data memory (300 points), alarm clock, etc.	Data memory (300 points), alarm clock, etc.
Regulatory compliance	EMI(Emission) - EN 61326 Class B EN 55011 Class B Group 1 - C-tick AS/NZS CISPR 11 EMS(Immunity) - EN61326 Annex A	EMI(Emission) - EN 61326 Class B EN 55011 Class B Group 1 - C-tick AS/NZS CISPR 11 EMS(Immunity) - EN61326 Annex A

*1: When needle type or test tube size pH sensor is connected.
*2: When alkaline dry cell batteries are used.
*3: When needle type or test tube size pH sensor is connected, liquid temperature can not be measured.

Note: Conductivity of sample solution must be at least 50 µS/cm.

Standard Accessories for Personal pH/ORP Meter (for a set of converter and sensor)

AA size dry cell batteries (2 pcs), User's Manual, Quick Manual, non-slip pads (2 pcs), hand strap, Instrument Card
* Standard solutions (pH 4, pH 7), calibration sub bottles (2 pcs), 3.3 mol/l KCl solution, 5-ml syringe, and cotton swabs are supplied depending on specifications.

Specifications of Sensors for Personal pH/ORP Meter

Sensor	Model	Measurement Range	Wetted Material
KCl replenish-free type combination pH sensor	PH72SN-11 (0.75 m) PH72SN-13 (3 m)	0 to 14 pH 0 to 14 pH	Polypropylene resin (sensor body, protective cover) Glass (glass electrode, temperature sensor protection tube)
KCl refillable type combination pH sensor	PH72SN-21 (0.75 m) PH72SN-23 (3 m)	0 to 14 pH 0 to 14 pH	Ceramics (liquid junction) Silicon rubber (sensor seal)
KCl refillable type ORP sensor	OR72SN-41 (0.75 m) OR72SN-43 (3 m)	±2000 mV ±2000 mV	ORP sensor: Platinum (electrode) KCl replenish-free type: PVC (cable), rigid polyethylene (grip), ethylene propylene rubber (grip and cable connection)
Needle type pH sensor	PH72SN-32 (0.75 m)	0 to 14 pH	Glass (sensor body)
Test tube size pH sensor	PH72SN-33 (0.75 m)	0 to 14 pH	Glass (sensor body)

Personal Conductivity Meter

Model	Suffix Code	Option Code	Description
SC72	—	—	Personal conductivity meter
Conductivity sensors	-00	—	Without sensor
	-11	—	With sensor for low conductivity measurement (cable length: 0.75 m)
	-21	—	With general-purpose type sensor (cable length: 0.75 m)
	-23	—	With general-purpose type sensor (cable length: 3 m)
	-31	—	With chemical-resistant type sensor (cable length: 0.75 m)
	-41	—	With sensor for high conductivity measurement (cable length: 0.75 m)
Label language	-J	—	Japanese
	-E	—	English
—	-AA	—	Always -AA

Conductivity Sensor for Personal Conductivity Meter

Model	Suffix Code	Option Code	Description
SC72SN	—	—	Conductivity sensor for personal conductivity meter
Sensor	-11	—	For SC72: Sensor for low conductivity measurement (cable length: 0.75 m)
	-19 *	—	For SC82: Sensor for low conductivity measurement (cable length: 0.75 m)
	-21	—	For SC72: General-purpose type sensor (cable length: 0.75 m)
	-23	—	For SC72: General-purpose type sensor (cable length: 3 m)
	-29 *	—	For SC82: General-purpose type sensor (cable length: 0.75 m)
	-31	—	For SC72: Chemical-resistant type sensor (cable length: 0.75 m)
	-39 *	—	For SC82: Chemical-resistant type sensor (cable length: 0.75 m)
	-41	—	For SC72: Sensor for high conductivity measurement (cable length: 0.75 m)
	-49 *	—	For SC82: Sensor for high conductivity measurement (cable length: 0.75 m)
	-AA	—	Always -AA

*Combination of conductivity sensor for SC82 with SC72 meter will not be IP67 waterproof.

Specifications of Personal Conductivity Meter

		SC72
Measurement		Conductivity of solution
Unit		S/cm or S/m
Measurement range	Conductivity	0 to 2 µS/cm through 0 to 2 S/cm(depends on sensor to be used)
	Resistivity	0 to 40.0 MΩ·cm (for sensor for low conductivity measurement) *1
	Temperature	0 to 80°C
Resolution	Conductivity	0.05% of full scale *2
	Resistivity	0.1 MΩ·cm
	Temperature	0.1°C
Repeatability	Conductivity	±2% (±5% when general-purpose type sensor is used in the range of 0 to 2 mS/cm)
Display		Digital LCD
Indication		Conductivity or resistivity, solution temperature and temperature coefficient (simultaneously), various messages
Range switching		Automatic/manual
Temperature compensation		Temperature coefficient (0 to 9.99%/°C) or NaCl coefficient, reference temperature at 25°C
Ambient temperature		0 to 50°C
Construction		IP67 (JIS C0920)
Weight		Approx. 220 g (without sensor)
Power source		2 size AA dry cell batteries
Battery life		Approx. 200 hours*3, Auto Power Off function
Functions		Data memory (300 points), alarm clock
Regulatory compliance		EMI(Emission) - EN 61326 Class B EN 55011 Class B Group 1 - C-tick AS/NZS CISPR 11 EMS(Immunity) - EN61326 Annex A

*1: Resistivity can be measured for reference. In that case repeatability is determined by conductivity.
*2: When measuring range is set to full scale.
*3: When alkaline dry cell batteries are used.

Standard Accessories for Personal Conductivity Meter

AA size dry cell batteries (2 pcs), User's Manual, Quick Manual, non-slip pads (2 pcs), hand strap, cotton swabs Instrument Card